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ABSTRACT

This report presents results of a study addressing two questions: (1) the role of certificates, licenses, diplomas, and other creditials in a decentralized vocational education system of public and proprietary schools, community colleges, union apprenticeships, the military, and correspondence schools and (2) the role that certification can play in the CETA (Comprehensive Employment and Training Act) system. The first section discusses functions of certification, describes various postsecondary vocational certificates and their requirements, and presents evidence of the role of certification in training programs and the labor market. It concludes with a description of reform efforts, such as increased attention to basic skills and work attitudes in training, certificate standardization, research on predictive validity of certification instruments, and development of new tests and tools to document skills. The second section shows how the lessons of certification can be applied to CETA. A certification process for CETA is recommended which includes a national prototype one-page skill record for use by local trainers: an exploration of use of national standardized competency-based tests of specialized skills, work habits, and basic skills with national minimum passage standards: and the establishment of a full-time placement office for each prime sponsor to market both graduates and tests/training standards. (YLB)

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CERTIFICATION:
EXISTING CERTIFICATES AND
A PROPOSAL FOR CETA

by

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and

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January 1980

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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EXECUTIVE SUMMARY

Objective:

The questions for this study are: "What role do certificates, licenses, diplomas and other credentials play in a decentralized vocational education system of public and proprietary schools, community colleges, union apprenticeships, the military and correspondence schools?" and "What role can certification play in the CETA system?"

Methodology:

These questions were explored in interviews with a variety of researchers in vocational education and testing and with personnel directors from firms, school directors, and professional associations. A literature review was also conducted on occupational testing, vocational education and work, employment qualifications and licensing, and certification practices.

Findings:

Ideally, certificates can be signals of individuals' competence in the labor market and a means to clarify the outcomes of training programs. In fact, our research and interviews show certification plays a smaller role than it might. Certification schemes are too numerous, too varied and too limited in their information to provide a clear signal to employers, students, instructors or consumers of the skills underlying the certificate or the quality of the training program behind it. The tests underlying the certificates can be questionable predictors of good job performance and biased against minorities.

Certification processes need a good deal of improvement before they can approach their potential usefulness in the labor market. Research and development are now being focussed on national standardized certificates, on indicators of work habits and basic skills, and on unbiased and job-relevant tests and skill records.

Policy Implications:

CETA should develop a certificate and certification process with the following features:

--develop one-page graduate skill records with measures of competency in basic skills, work habits and specialized skills and a description of the training program;

--require local prime sponsors to use national model skill records unless they have acceptable substitutes;

--explore the use of standardized competency tests. Develop an inventory of specialized skill tests and support the development of tests or measures of work habits and generic skills;

--set minimum national standards for passage of the tests and allow the prime sponsor to set higher standards if so wished;

--establish a full-time placement office with each prime sponsor and market the standards and tests to employers on a nationwide basis.

SECTION A

CERTIFICATES AND TESTS - THEIR ROLES IN OCCUPATIONAL TRAINING

1. Introduction

Many youth and adults go into formal postsecondary training each year. A 1976 survey of the nation's 1972 high school seniors shows that 39 percent had earned certificates, degrees, licenses or diplomas of some kind. Of these a good portion were vocational: 40 percent earned certificates; 15 percent earned licenses; and 9 percent earned two-year vocational school diplomas. At the same time, 16 percent earned two-year degrees and 37 percent earned bachelor's degrees. While over 60 percent had earned no degrees or certificates at that point, many of these may have been in training programs they did not complete.[1]

The postsecondary vocational education system is very diverse and decentralized. A student may find a five-month program or a twenty-four month program for similar occupational specialties. He may choose among a variety of schools and programs with different teaching approaches: public or proprietary profitmaking schools, community colleges, union apprenticeships, the military, correspondence schools, government manpower training programs, community organizations and employee training programs. There is also a myriad of occupational specialties, from blueprint reader to master craftsman to welder in the trades alone. In any metropolitan area, literally thousands of options will be open to a student looking for career training and the best match of institution, cost, length of program and occupational specialty.

Coordination among these schools and programs is minimally sought at the national or the local level. The resulting system, with its lack of common standards or comprehensive planning, is strong in several respects. It allows for a wide range of options to develop for the student,

in teaching method, flexibility of scheduling and other characteristics of training. Decentralization also allows the system to respond rapidly to the changing skill needs of regional and local labor markets. For example, proprietary schools, which are the most free of federal or state guidelines, appear to be particularly responsive to employers' needs and changing labor market conditions. Evidence from a variety of studies shows that they close and open new programs and improve their equipment more often than their public sector counterparts. Military training programs have also been innovators in short, intensive courses and in linking jobs and education through explicit task analysis and performance testing. Freedom from the curriculum constraints of public education systems has made this possible.[2]

Decentralization and lack of coordination have distinct weaknesses as well. Gaps and surplusses in particular fields may develop at the local level when there is minimal communication or incentive to jointly plan among institutions. Dissemination of new ideas and approaches across the system is unnecessarily slowed by the balkanization and lack of communication among practitioners and researchers. For example, public vocational educators are generally unaware of the successful innovations in the military sector.

Finally, and most important for this study, the sheer nember and the diversity of schools and programs confuse students and employers alike. Students on their own have limited means to assess the curriculum or the payoffs to training from the wide range of programs in the area, and their choices are not fully informed. A minority of proprietary schools actively engage in misrepresentation and low quality training for non-existent jobs, and the FTC and state licensing boards are now dealing with problems of this sort by requiring placement information to be divulged.[3] Employers

also find the diversity of programs confusing. While large and well-established schools such as Katherine Gibbs Secretarial School have a wide and strong reputation, employers are unable to distinguish among the countless programs and schools around the country. The net effect is a discounting of the value of training and the reduction of incentives for high-quality training on the part of students and schools alike.

The strengths and weaknesses of decentralization create a constant tension between the need to encourage diversity and responsiveness to local labor market needs and industry's skill requirements and the need for quality control and known standards in all aspects of vocational training. A similar tension exists in the specific case of CETA training programs.

In this setting, the questions for this paper are: "What role do certificates. licenses, diplomas and other credentials play in a decentralized vocational education system" and "What role can certification play in the CETA system?" These questions were explored with a variety of researchers in vocational education and testing and with personnel and training directors from firms, school directors and professional associations. A literature review was also conducted on occupational testing, vocational education and work, employment qualifications and licensing, and certification practices.

Ideally, certificates can be a signal of an individual's competence in the labor market and a means to clarify the outcomes of training programs. In fact, our research and interviews show certification plays a smaller role than than it might. Its effectiveness appears to be limited by the very diversity of the system in which it operates. Certification schemes are often too numerous, too varied and too limited in their information to provide a clear signal to employers, students, instructors or consumers of the skills underlying the certificate or the quality of the

training program behind it. The tests underlying the certificates can be questionable predictors of good job performance. As a whole, certification processes need a good deal of improvement before they can approach their potential usefulness in the labor market.

II. Functions of Certification

Definitions

For the purposes of this paper, a certificate means a record of the competencies of an individual for employment. It may be a school diploma, a license or a portfolio of documented skills* and tests of some sort may have been used to measure the skills shown by the certificate.

A certification process includes both the steps by which an individual acquires a certificate and the standard-setting which establishes skill and other requirements to acquire a certificate.

Information Signals

Certificates and certification processes can be used to provide the following information in the marketplace and training system:

1) a signal to an employer of the accomplishments and aptitudes of an applicant for a job or a candidate for promotion;
2) a signal to the student of the goals he or she must meet in an instructional program or to gain entry into an occupation;
3) a signal to instructors and administrators of how well an educational program is meeting training standards; and
4) a signal to consumers of the quality of the labor that produces goods and services.

*Much of the literature on certification includes only voluntary certificates in the category certificate. Voluntary certificates will be described later in this section.

For employers, the certificate says the bearer has completed certain tasks or met specific standards. At the simplest level, a diploma or degree shows that he/she has the motivation and perseverence to enter and complete a vocational program and has been exposed to at least some of the concepts and demands of the occupation. If the certification includes testing, the individual's specific skills will also be measured more or less precisely. If the test is written, certification can reveal cognitive understanding of the job and the student's test-taking ability. With hands-on performance tests, what the individual can do in practice can be closely measured.

For the employer, a certificate can be an important, if not critical, component of a hiring or promotion decision on an individual. Along with personal interviews and recommendations, certificates demonstrating school attendance or passage of tests can be used to place the individual in the firm where his competence matches the demands of the job. As an information signal, the certificate thereby increases the efficiency of worker allocation decisions and specialization in the labor market.

For the student, a certificate can be an important means to job advancement and a stimulus to investment in skills. Proof of job competence or skills gives the individual an advantage over other applicants in access to high-paying, stable jobs. To the extent that employers pay attention to certificates, students have the incentive to invest in skills and schooling. More students will pursue specialized training in greater depth, the clearer the signal and the more weight employers attach to it in hiring and promoting.

While the student is in school, the certification process also presents a set of goals. If there are no tests, it may only show what attendance record is required to get a certificate. With tests and with courses reflecting the occupational requirements, the certificate shows the student the competencies that are considered valuable to enter a certain occupation. It also establishes

standards of proficiency which must be met and sets out tasks to be mastered by the student while in school.

For the school, certification can play a significant role in coordinating and creating incentives for high quality training. Clear standards and tests provide teachers and administrators with a common set of objectives for the performance of graduates. As such, they serve as one of several mechanisms for translating job requirements into training objectives and programs. Standards or tests are expensive to develop; once known, they provide models for all participants in the system to follow. The performance of graduates on standard written tests can also provide the means for evaluating teachers or programs and for achieving internal control and accountability.

For the consumer, certification allows a buyer to see the quality of the labor--and thus the quality of the product or service he is purchasing. If all the auto mechanics in a certain shop are nationally certified for their work, the consumer may think this is the sign of a good product. Certification can also be used as a sign that the worker has met minimum safety and competency standards.

As they provide more information in the marketplace and in school, certificates have the potential to replace custom and prejudice in hiring; to replace subjective feelings with objective measures of competence. As such, they can help women, blacks and other minority groups to advance in the labor market. However, the tests and standards developed must not in their own fashion create a new bias in hiring, toward those who do well on standardized tests, for example, but not on the job.

Views on the Effectiveness of Certification

Two studies by economists help to clarify both the potential role and the pitfalls of certificates in the labor market; one, a model by

Michael Spence of job market signaling;[4] and, two, a model by George Ackerlof of the effects of uncertainty on the quality of goods produced.[5] Taken together, they highlight the importance of clear information in the job market, the costs for the employer if it is not readily available, the misallocation which can result from poor signaling, and the groups, particularly the disadvantaged, who suffer from it.

Spence characterizes the hiring process as investment under uncertainty. Employers will use whatever signals or measures about the competence of applicants they can find at low cost to reduce the uncertainty. In effect, they try to predict the performance of applicants on the job and use characteristics such as sex, age, previous work experience, education and test results to estimate their productivity. These screens are based on both the prior experience of hiring and the subjective prejudice of the employer. They provide a cheap way to sort through a pile of applications, but they will hurt the individuals who are qualified but fail to meet the employer's criteria. Screens are merely probabilistic estimates of performance, and mistakes are made in both directions. Employees are hired whose subsequent work is below expectations; conversely, applicants are not hired whose performance would exceed the expectations based on blunt screening variables.

Certificates can paly an important role in replacing the custom and prejudice detrimental to blacks, women and the poor by objective measures of competence. Those who can do better than the norm of previous generations will have the opportunity to advance above it.

However, certificates themselves can be imprecise and discriminatory as screens. If the certificate does not distinguish clearly the skills of the graduate and the nature and quality of the program, then employers will group holders of certificates into very broad categories.

All vocational students, for example, may be lumped together regardless of their level of skills or competence. The reason is, as Spence points out, that it costs money for the employer to find out for him/herself about each and every applicant and each and every program. Those who are better than the category to which they are assigned are hurt by the bluntness of these assumptions.

In this regard, George Ackerlof has described the costs entailed for youth coming from schools employers know to be in disadvantaged neighborhoods:

> ...the unreliability of slum schools decreases the economic possibilities of their students. ... an employer may make a rational decision not to hire any members of these groups into responsible positions--because it is difficult to distinguish those with good job qualifications from those with bad qualifications.[6]

In his modelling of the effects of uncertainty Ackerlof further points out the reduction in incentives to excel for individual students in slum schools. If employers cannot distinguish the well-trained from the poorly-trained, the competent from the incompetent graduates of a school, they will offer the same wage to all. The better student has no incentive to exceed this level of achievement, and the poorer student has no incentive even to achieve it. Over a period of time, the quality of education of the entire student body falls and its reputation with it. Ackerlof has pointed out for a variety of markets such as used cars, credit, or insurance, that uncertainty about quality creates the conditions for the "bad to drive out the good." Ultimately, there is a tendency for a "reduction in the average quality of goods and also in the size of the market."[7]

This tendency for uncertainty in a market to reduce quality is also at work among vocational schools and programs. If employers and students cannot easily discriminate among schoos, then the incentive for providing

high-quality training is reduced. Conversely, fly-by-night operations can, and do, benefit from the general reputation of private schools and are able to provide low-quality training to the unsuspecting student. However, over a period of time, the confidence of the public in schools in general wanes as news is spread of those who actively mislead potential enrollees. Ultimately, all schools can suffer from the reduction in quality and reputation which occurs.

The uncertainty for employers stems from the large numbers of workers and schools in the market and the infrequency of contact with each other. Only in cases with well-developed links between a school and a small number of local employers is this uncertainty reduced over time by experience. There are several remedies in markets of this sort: either chain stores, restaurants or schools which guarantee a standardized product across large numbers of suppliers; or, associations of suppliers to establish minimum standards. However, unless these standards are required by law, there are always firms or schools which perceive a benefit from diversification and differentiation from the norm. This might be in the form of increased specialization, innovative programs or lowered quality. Once again, the lack of coordination in the vocational training system encourages healthy diversity, but the sheer number of programs makes it all but impossible for employers to have anything but broad, sweeping generalizations about them. Ultimately, all suffer from the uncertainty created.

III. Postsecondary Vocational Certificates and Their Requirements

Postsecondary vocational certificates include the following major types: school diplomas or degrees, apprenticeship certificates,

licenses, voluntary certificates, military certificates and the General Educational Development (G.E.D.) certificate.

School Certificates

School certificates are usually simply diplomas. They state that a student has successfully completed a program of formal study, generally in an occupation as specialized as "transportation secretary." To achieve a certificate, in most cases the student has taken a variety of tests along the way. These are primarily written tests and often multiple choice. Performance tests are common only for the mechanical skills like typing or welding.

The schools which grant these certificates are publicly or privately funded. The private schools can be nonprofit or for profit (proprietary). Their programs can range from a month to two years and cover fields from business to auto mechanics to medical records administration. There were over 8,300 such schools in 1975 and well over 80 percent of them were private. Table 1 shows the variety of public and private schools available.

The contributions of proprietary school training was one of the first issues assigned for this study. Because of their training, proprietary school certification processes--although not the paper certificate itself--are distinctive. Proprietary programs pay close attention to the interests of employers and the needs of the students, many of whom may have been the less successful students in prior academic settings. Most of the instructors come into teaching from the world of work. The instruction, particularly in the trade and technical schools, is done in short units with continuous feedback and evaluation. The instruction is often done with more up-to-date equipment than that which is used in public schools. The instructors

Table I

Noncollegiate Postsecondary Schools
Offering Occupational Programs

	Total		Public		Private	
	1973	1975	1973	1975	1973	1975
Total	8,846	8,356	893	964	7,953	7,392
Vocational/technical	1,167	1,187	579	594	588	593
Technical institute	215	210	52	38	163	172
Business/commercial	1,242	1,140	1	1	1,241	1,139
Cosmetic/barber	2,405	2,328	4	21	2,401	2,307
Flight	1,483	1,309	6	44	1,477	1,265
Trade	708	723	30	30	678	693
Home study	130	106	1	0	129	106
Hospital	1,247	1,112	170	215	1,077	897
Other	249	241	50	21	199	220

(Source: Department of Health, Education, and Welfare--National Center for Education Statistics, "Directory of Postsecondary Schools With Occupational Programs", 1973-1974 and 1975-1976.)

are seen as responsible for the student's success. If a student does not make it, it is the teacher's fault. Many proprietary schools also emphasize attendance, dress, and interpersonal skills for the working environment. Poor attendance is not tolerated and strict dismissal or class make-up procedures for poor attendance are common. Because of these features, the graduate with proprietary school certification may well have a greater degree of understanding of the work environment as they enter the job market and more performance skill testing than the graduates of other programs.

Apprenticeship Certificates

Apprenticeship certificates are granted to those who have gone through training programs approved by the Bureau of Apprenticeship and Training (BAT) in the U.S. Department of Labor. There are over 450 apprenticeable occupations, primarily in the skilled trades. Apprenticeship certificates are simply the formal statement than an individual has completed training in an apprenticeable occupation. According to the Bureau, apprenticeable occupations are learned through a structured supervised on-the-job training program conducted by labor or industry. They are "clearly identified and commonly recognized" throughout an industry. They involve manual, mechanical or technical skills which require at least 2,000 hours of work experience to learn. They also include at least 144 hours per year of related classroom instruction given in a local vocational school or community college.

In addition to the national recognition and on-the-job training that make apprenticeship programs distinctive, they also have an interview process for all applicants. An applicant is interviewed by a group of four people about his education, physical health, interest in the job, and attitude towards the work. The responses in these areas are evaluated

and combined with an assessment of other personal traits to give the applicant a score from 1 to 100. This score will affect the individual's chance to get into his chosen program as soon as he would like.

Licenses

A license gives an individual legal authority to practice an occupation. The authority is usually granted by a state board and is required to perform certain tasks. For example, any mechanic that performs FAA-required inspections must be licensed by the FAA.

Licensing usually requires experience or formal training. Written examinations are usually given. In a few cases--for example, plumbers and cosmetologists in some states--performance tests are given. Minimum age requirements are common, and statement attesting to sound moral charactermmay also be required.[8]

Licenses are required in all states for the following occupations: barbers, cosmetologists, embalmers, dental hygienists, practical nurses and airplane mechanics.[9] Many more occupations are licensed in some states. There is a strong tendency for members of an occupation to band together as the occupation grows and request licensure from the state legislature.[10]

Voluntary Certificates

Voluntary certification is a nongovernmental recognition of competency in an occupation. It is not required for practice in the field, but it may be a means to higher salaries or promotions. The certificate is usually granted by a professional association such as the American Dental Association or by an independent agency such as the National Institute for Automotive Service Excellence, whose sole purpose is certification.

As with licensing, certification usually requires a certain period of experience or the completion of a formal course of training in the occupational specialty. Written examinations are given; it is generally assumed that performance testing has been done through the training or work experience.[11]

Voluntary certification is predominant in the allied health occupations. Some examples are:

Dental assistants - Certifying Board of the American Dental Association;

Emergency medical technicians - National Registry of Emergency Medical Technicians;

Medical technologists - American Medical Technologists or the Board of Registry of the American Society of Clinical Pathologists or the International Society of Clinical Laboratory Technologists; and

Medical record technicians - American Medical Record Association.

In other fields, automobile and truck mechanics can be certified in several different specialties from front-end to brakes to diesel engines. Financial analysts, real estate appraisers and travel agents can also acquire voluntary certificates.

Military Certificates

Each of the Armed Services certifies servicemen in particular occupational competencies. In 1976, 129,000 servicemen were trained in 88 training centers and schools. The certifications awarded are known as military occupational specialties (MOS) in the Army and Marine Corps, ratings in the Navy and specialty codes in the Air Force. In the Army alone there are over 350 MOSs, with up to five skill levels designated for each MOS.

Every enlisted man or woman has an occupational designation. They are the result of formal training and the tests can be performance or

written tests. These certificates play an important role in promotion and career development. The certification is nationally the same within each Service but across Services the specialties may be named and developed along slightly different lines. For example, jobs similar to civilian physical therapist work include physical therapy specialist, occupational therapy specialist and orthopedic specialist in the Army, hospital corpsman in the Navy, and physical therapist in the Air Force.[12]

General Educational Development Certificates

The General Educational Development (GED) certificate states that an individual has met basic education requirements at the secondary level. GED training and testing are for those without a high school diploma, and the GED certificate is often accepted as the equivalent to a diploma. Often GED training is self-instruction. Thus, the certificate shows that an individual has taken a test, but not necessarily that he has had formal training.

GED testing is done on equivalent tests nationwide. The program is administered jointly through the GED Testing Service of the American Council of Education and state education departments. While the tests are the same nationally, each state sets its own minimum standards for passage and sets its own policies in age requirements and eligibility for retesting.

IV. Evidence of the Role of Certification in Training Programs and the Labor Market

In its ideal form, a certificate can be an important signal to employers, students, schools and consumers--a signal which facilitates hiring and promotion decisions, encourages investments of youth in training, coordinates and controls performance of teachers and programs,

and guarantees an acceptable quality of goods and services. Is there any evidence that certificates and the certification process fulfill these important functions? To answer this, there are two specific issues to be addressed:

1) Does a certificate, defined as "a record of the competencies of an individual for employment" have an affect on hiring and promotion? If so, what kinds of information in a record appear to have the most value as signals of competence? Completion of a program? Test results? Or other information?

2) Do certification processes raise quality and maintain standards within schools and training programs?

The Role of the Certification Process in Schools and Training Programs

Is there evidence that certification processes raise quality and maintain standards within schools and programs? There are several ways in which this can work:

- - -Tests and standards can motivate students' work;

- - -Student performance on tests can be used as a means of accountability for teachers and programs;

- - -The development of tests and standards can provide a forum as a means for administrators, teachers, researchers and employers to discuss and develop high-quality curricula.

One test of the effectiveness of the certification process in maintaining standards would be a comparision of the quality of several schools or programs and the extent to which they use tests and clear standards of performance for completion of a degree or program. Data simply do not exist to make this test. The performance of graduates of several programs can be compared, but there are more factors than certification at work in an institution which might explain any differences in graduates.

Casual empiricism suggests, however, that these three certification mechanisms--student motivation, teacher and program accountability, and

curriculum development--can contribute to high-quality training. Interviews and literature review reveal that some program administrators self-consciously do use certification in these ways and believe they make a difference. While there is no evidence on how widespread these practices are, comments of the administrators are nevertheless presented as examples of what can be attempted and, hopefully, achieved.

Motivation for Students

First, it can be argued that difficult tests with a critical impact on entrance into a profession are strong motivators for learning. Law students and medical students study feverishly for several months to take their board exams; graduate students study for general exams. Whether or not studying for exams constitutes learning in the right sense has, of course, been debated on many a campus. Nevertheless, testing and grades remain a primary mechanism for motivating students and signaling to them what body of knowledge is needed for professional or academic practice.

Proprietary school representatives suggest, similarly, that tests and grades are important tools for motivating vocational students. Many students are wary of tests from prior academic failures, but by developing short instructional units and tests which start easy and become increasingly difficult over time, schools can help students overcome their fears and commit themselves to the program. A. Harvey Belitsky in a 1969 study of proprietary schools suggests that the breakdown of a course into short, sequential units (with graded assignments or tests) is "perhaps the most distinctive method of instruction found in private schools." He cites as an example a mechanical drafting course with 38 units and a letter grade assigned for each.[13]

Belitsky points out the critical link found by psychologists between success at learning and basic motivation. He quotes Dr. David P. Ausubel:

> Frequently the best way of motivating an unmotivated pupil is to ignore his motivational state for the time being and concentrate on teaching him as effectively as possible. Much to his surprise and to his teacher's, he will learn despite his lack of motivation; and from the satisfaction of learning he will characteristically develop the motivation to learn more.
>
> Paradoxically, therefore, we may discover that the most effective method of developing intrinsic motivation to learn is to focus on the cognitive rather than on the motivational aspects of learning, and to rely on the motivation that is developed retroactively from successful educational achievement.[14]

Belitsky cites other incentives for students to study in proprietary schools which are related to the value of the certificate in the labor market. When 128 schools were asked about factors used to maintain student interest, they cited the following, in rank order: visits by employers or their representatives, breakdown of courses into small achievement units, vocational counselling, and visits to plants or offices. As Ackerlof's model has suggested, the clarity of the signal to the employer and the promise of a future job is an incentive for achievement within the program.

Karen Lane, Education Director of the Medix School in Baltimore, described for this study one of the reasons why students like their pass-fail competency tests, usually performance-based:

> Most students rave about the competency assessments because they are rated against an objective standard. They are not up against the rest of the class or a subjective instructor.

Only A students don't like the tests, because "they are not distinguished from the rest."

Tests and skill records are proving to be increasingly useful as a signal to students of what they should be learning in other areas

of education and training. George Ziener of the National Institute on Drug Abuse states that in the credentialing of drug abuse workers in Pennsylvania, "The information on task analysis goes to the individual to show him/her what skills must be documented in the field." Clay Brittain, in the U.S. Army describes the Soldiers Manual for Skill Qualifying Tests (SQT's):

> The Soldier's Manual is the individual's guidebook for MOS training. The manual lists the critical tasks at each skill level of an MOS, and for each task describes the requisite performance...and specifies the acceptable standards of performance. ...(It) must be in the hands of the soldiers at least six months prior to skill qualification testing,...(and) delimits the domain covered by the SQT.

Later, students get a more specific notice, whose purpose is "to exploit the power of a test to motivate and direct the learning efforts of those to be tested."

Finally, forty states have now passed some kind of legislation to develop minimal competency testing in public schools. While data is not yet available on the results of all these efforts, in Florida, Turlington found that such state standardized tests in grades 3, 5, 8 and 11 have led to "dramatic increases in performance" and "growing student interest in school." Black Students in the 11th grade, for example, showed a 17% improvement in math scores from the first year of the program to the second, and a 15% improvement in communications scores. Over 50% of those who failed the first year passed when retested. Turlington claims these improvements are due to the state compensatory education program, increased diligence of students, more emphasis on academics, and improved atmosphere in school.[15]

Accountability

Casual empiricism also suggests that test scores and grades are used as tools of accountability for teachers and schools. If students in one professor's graduate statistics course cannot pass the department's general examination, the faculty takes note. Either the course is revised or the faculty member replaced or both. Similarly, scores of students on aptitude and achievement tests are used as measures of quality of the school all the way from first grade to graduate school. Results are now published frequently, for example, on the achievement levels of students relative to national norms.

For a long period proprietary schools have used test results of students to evaluate teachers. As Belitsky noted in his study in 1969:

> ...most private schools consider a sizable number of student failures in one instructor's course, or in several of his courses over time, an indication of the instructor's failure.
>
> The schools are convinced that creditable teaching performances can be ensured by making teaching capability the main criterion for reward and advancement; and instructors are not usually given tenure.[16]

Such practices were reiterated in interviews for this study. Karen Lane of Medix states, "If fourteen out of sixteen students do the task wrong, the instructor has a problem" and is held accountable to solve it. Helen Donger of the N.Y. Institute of Dietetics says:

> If in a class, three out of twenty students fail, the problem is the students. If ten out of twenty fail, that's a signal that there is something missing between the student and teacher, that they have lost a common understanding of the objectives of the instruction.

Brittain of the U.S. Army describes their use of performance on SQT's for program accountability:

> The goal is to identify performance deficiencies and to focus and direct training efforts where they are most needed. In terms of such objectives, SQT failure rates, at least for a time, may be one of the more significant barometers of our success.

Educational researchers such as Glick, Henning and Johnson believe that the new move to competency-based education (CBE) of students in public schools will create an "accountability forum."[17] While it is too soon for conclusive evidence, Castelle Gentry claims CBE will "render our murky instructional processes visible" and teachers will be held accountable for student performance.[18] H.S. McAshran speculates on the potential uses of CBE: avoidance of course content duplication, individualization of instruction, consistency within courses, improved evaluation systems, and refinement of state accreditation.[19]

Curriculum Design

Finally, the development of tests and certification standards does appear to be one means for discussing the needs of the job or profession and, indirectly, for designing the curriculum. In reviewing the CBE movement, Airasian, Madaus and Pedulla write:

> It is impossible to confront the spectre of minimal competency testing without addressing such questions as what schools should teach, what schools can teach, what are reasonable public expectations for the educational system, its teachers, and its pupils, and what is a complete pupil.
>
> Potentially it can provide the impetus to reexamine our educational system and our expectations for it.[20]

In the military, courses designed by specialists are also increasingly based on task analysis and performance. Says Brittain of the Army:

> SQT's are the levers for influencing individual training. ...tasks (in the SQT's) are selected in terms of the extent to which they need to be made the focus of training efforts.

Researchers of military training report that designing courses around performance has reduced training time from 25% to 30%.[21]

The Value of Certificates in the Labor Market

Does a certificate of vocational training serve as a signal of job competence in the labor market? Do employers use the information in this "record of competence" to hire and place workers in jobs where their training matches the requirements of the work? What types of information are employers responsive to--specialized skills, completion of a program, grades, the institution attended? How much value to which groups does a certificate have?

If the certificate were an important screen used by employers in hiring and promotion, one would expect to find a significant relationship between the type and amount of training taken, the performance level of the student, information about the program in the certificate, and the skills involved in the job attained by the worker. This relationship is hard to test with available studies. Large survey samples of graduates of postsecondary programs have minimal detail on the specific nature of training received, the certification or standard-setting process and the job taken; on the other hand, more detailed studies of schools and local labor markets may not be generalizable. Further, the conventional test of the role of a certificate is an increase in earnings following training, but there are many non-monetary compensations and institutional factors which make it hard to find the link between level of skills and success in the labor market. Nevertheless, the conventional test is the primary test of the effectiveness of vocational training in the studies cited below.

In general, participation in postsecondary vocational training does appear to function as a signal of competence to employers; probably both a signal of motivation and of exposure to at least some training. Recent

reviews by Grasso and Shea and by Donna Olszewski of studies of vocational graduates conclude that while enrollment in high school vocational programs does not bring long-term income benefits, enrollment in postsecondary programs does, in particular for blacks and women. Graduates of training programs also believe that training is valuable in the labor market. In the NLS Surveys of 1972 high school graduates only 24% of those who had had formal postsecondary training said that they could have gotten their present job without it.[22]

In certain instances, the certificate is a very precise signal in the labor market. In these cases, the certificate serves as a critical screening device for the employer and the skills learned have a direct application to the job taken by the individual upon completion of a program. Examples of such tight linkages are cited in the literature and debate over the viability of public school vocational training. In a recent Washington Post article discussing the currently poor reputation of vocational education, William Raspberry quotes from a letter sent to him by a Minnesota educator:

> ...98.6 percent of last year's graduates of St. Paul Technical Vocational Institute are working in their vocational majors or closely related fields. For technical graduates, the figure was 99.1 percent, with an average starting pay of $866.52 per month.[23]

Such instances are usually characterized by one or more of the following factors: 1) a highly visible school with an outstanding reputation (often a chain school such as Katie Gibbs Secretarial School); 2) direct and frequent communication between a school and one or several local employers; or 3) strong demand in the labor market for specific skills, and the unwillingness, because of high turnover rates, of the employer to provide his own training.

Harvey Belitsky cites several examples of close links between proprietary schools and employers:

> ...acute shortages of truck drivers impelled truck owners to visit a school and 'give all sorts of suggestions.' ...the President of Midway Technical Institute of Chicago testified that a boat manufacturer had asked him to set up a course in the repair of fiberglass boats.[24]

As in Ackerlof's description cited earlier, one way for schools and employers to cooperate in increasing the value of the certificate as a screening device is to establish a specialized program which meets the needs of a segment of local employers. Over time trust is built in the graduates and ultimately in the certificate. Helen Donager of the N.Y. Institute of Dietetics, for example, describes her close contacts with employers as follows: "The program is known well enough that employers call and trust my judgment to send them good people."

Certain types of occupations and firms also depend heavily on formal training programs to prepare workers for jobs. For these jobs, such as chef, electrician, computer programmer, or draftsman, the worker's attachment is to the craft, but not to any specific employer. Therefore, firms are unlikely to invest in any training of their own and select the applicants who have demonstrable skills in specialized areas. Union apprenticeships and jobs, which in 1965 constituted 9.4% of all jobs,[25] are a prime example of this pattern of formal training and hiring. Small firms, in general, are also less likely to do formal training than large firms, perhaps because of limited resources and higher turnover of employees.

These examples, however, do not appear to characterize the role of vocational certificates across the wider labor market. Studies which examine the experiences of national samples of youth and adults or which

look at more than one or a few schools, find that the certificate functions only as a weak and diffuse signal of job preparation. Some training at the postsecondary level helps students find high-paying skilled jobs. But fine distinctions of type and quality of training do not appear to count for much in a wide spectrum of fields and labor markets.

Empirical evidence suggests, for example, that distinctions such as completion vs. non-completion of a program, length and difficulty of program, or institution attended are not related to placement of workers. In a study of the Parnes data on young men, Olsen found the following two results:

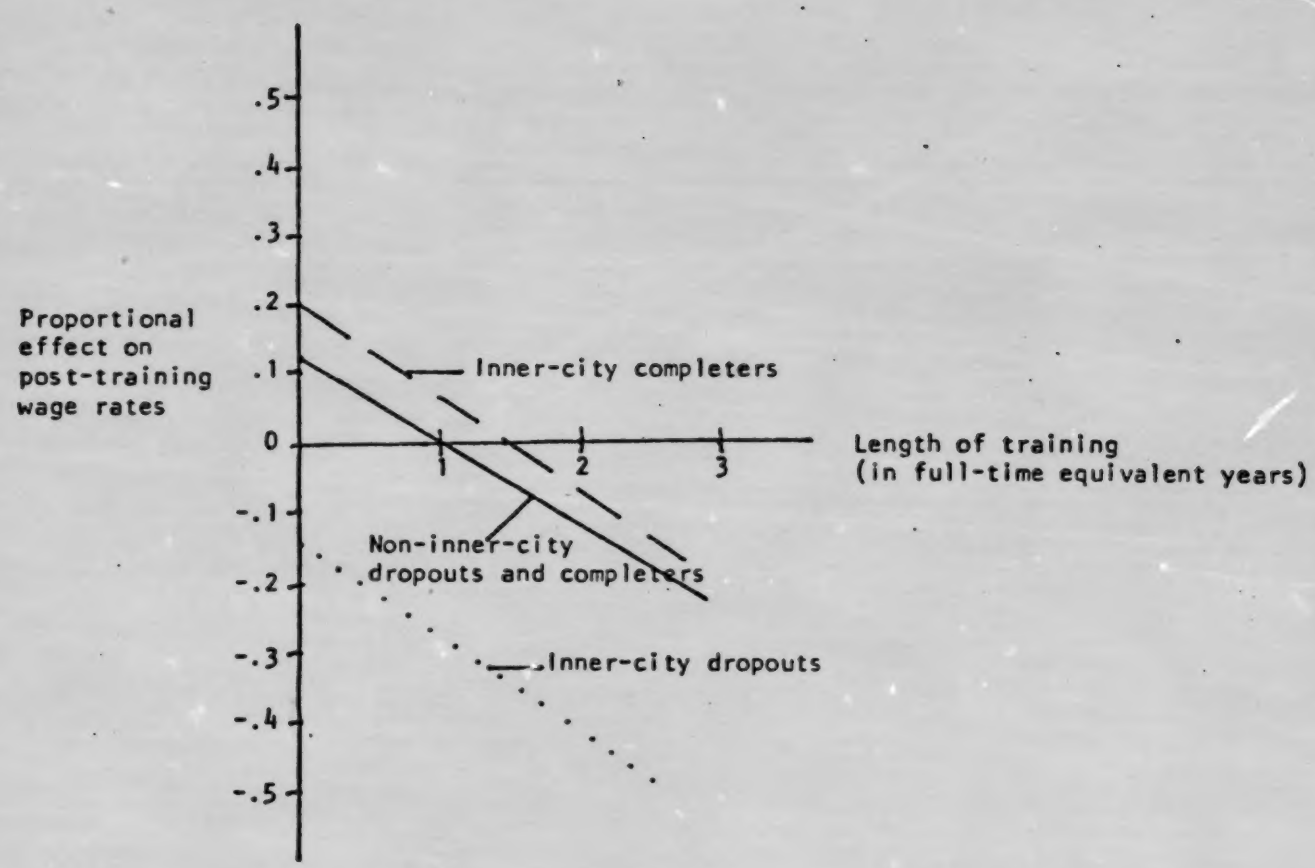
> 1) For otherwise similar young men, those with less than three (full-time) months of private vocational schooling earn higher wage rates than those with none of this schooling, but the longer students attended the schools the smaller is the wage premium (in fact, persons with more than about one full-time year of vocational schooling actually earn less than otherwise similar individuals with no vocational schooling), and
>
> 2) Except for inner-city youths (for whom dropping out has serious consequences), wage rates of persons who attended vocational schools for a given amount of time are essentially the same, whether they stopped going because their program ended or whether they dropped out.[26]

If completing a program is considered equivalent to receiving a school certificate, this study implies that completion itself (not training itself) is very important for inner city youth and of little consequence to others. It may be that employers pay particular attention to completion as a signal of motivation among a group that they believe has particularly serious attitudinal and motivational problems. (Figure 1)

Another recent study of graduates and drop-outs from public post-secondary vocational programs found no addition to earnings from completing

Figure 1

Estimated Proportional Effects of Full-Time Equivalent Vocational School Training



Source: Olson, Lawrence S., "An Empirical Study of Decisions Involving Vocational School Training," Study done for U.S. Department of Health, Education and Welfare, Office of Education Bureau of Occupational and Adult Education.

a program. Wellford Wilms found that drop-outs from programs were more likely to be from disadvantaged backgrounds, but ultimately earned no less than those students of the same class and background who went on to graduate from the program.

Finally, in the late sixties and early seventies, a number of studies were done on the labor market experiences of graduates from different types of programs. Three studies stand out: the Allen and Gutteridge study of business school graduates in upstate New York from 1962 to 1971; the Wolman study of public and proprietary graduates from four major cities (1972); and the Wilms study of 2,270 public and proprietary graduates (1974).[27] All three found that within a given occupational area there are no consistent differences in labor market successes between public and proprietary schools.

The Wilms study is the only one which carefully controlled for the background characteristics of the students. Even with these careful controls the overall results were not much different. The study does suggest that proprietary schools have somewhat better placement records, particularly in the higher-paying, higher-status technical occupations. But better placement records do not necessarily mean higher earnings. Overall, the programs have much the same economic value for the individual. In a recent survey of employers done for a study on external degree candidates Sosdian and Sharp also found that "employers--although favorably disposed towards education in general--as a group are not overly concerned with institutional reputation."[28]

Why Vocational Certificates Are Not More Valuable

There are a number of reasons why vocational certificates as they are now designed and used do not carry more weight in the labor market. Some of these have to do with the current state of the labor market and the way large employers hire; other with the decentralized nature of the training system and the methods used to certify individuals.

Skill Mismatches

First, much of the potential value of the certificate to the employer and student is lost when the skills of graduates do not match the requirements of available jobs. As they enter college or training students perceive both high pay and openings in various fields but, without any means to coordinate decisions, too many invest in specialized education to be accomodated. Employers do not adapt their technology and hiring practices quickly enough to absorb the resulting excesses. Specific occupational fields, like agricultural labor markets, experience cycles of surplus and glut, as students under- and over-shoot actual demand in what has been called a cobweb pattern. Richard Freeman has identified such cycles in the markets for lawyers, engineers, and other technically-trained workers.[29] Experiences of vocational graduates have also been shown to depend on the state of their specialized labor market at the point of graduation. In part because of such cycles, it appears that those students who are willing to switch out of their field of training actually earn more than those who stay.

Freeman and others have also documented a general decline in the value of the college degree which followed large-scale increases in enrollments in the 1960's. The rate of return to a B.A. fell from 12% to 8% between 1968 and 1973.[30] These increases in college enrollments

have had important ramifications for the vocational student, as well. As the supply of college-educated manpower increased beyond the capacity of the labor market to absorb them, employers began to upgrade their educational requirements for jobs which do not appear to require them. Margaret Gordon has estimated that fully 40% of the increase in employment of college graduates between 1959 and 1971 was due to such increasing credentialism.[31] Studies by Ivar Berg and James O'Toole in the early 1970's confirm that in these jobs increased education does not result in greater productivity.[32]

Christopher Jencks has also been greatly concerned about the role of credentialing in society. In his studies of the economic value of college education, he found that the first and last year bring substantially higher increments to earnings and occupational status than either the second or the third. Differences in ability or achievement of those who finish vs. those who do not cannot explain this finding. Jencks offers two explanations: either employers view completion of a program as a reliable indicator of motivation and perseverance and these qualities matter on the job; or, the degree is simply being used for convenient, but unsubstantiated, rationing of the good jobs in the economy.[33]

Jencks fears that use of completion of formal schooling as a screen on the part of employers discriminates unnecessarily against individuals and groups in society who can do well on the job, but not in school. Traditions in hiring which favor the literate, verbal, and well-educated perpetuate a system of tracking and lower achievement among blacks and blue-collar and working-class groups. Their low income limits educational opportunity for their children; their culture underestimates their potential.

In the end, while youth might be able to function effectively on the job, they are excluded by their lack of academic credentials.

Vocational students, in particular, are adversely affected by such patterns of hiring. To the extent that employers use the college credential as a cheap and easy screen, workers who have learned the necessary skills in a vocational program, but have no college degree, will be excluded from jobs they are qualified for. Such exclusion will be exacerbated if the vocational certificates which they hold do not clearly specify the motivational attitudes and basic skills which employers seem to care about, as evidenced in Jencks' study.

Wellford Wilms' study of vocational graduates in four cities in 1973 demonstrates empirically how this general phenomenon of over-education of Americans affects skilled workers. He found that only 20% of graduates of high-skill programs took jobs commensurate with their training, compared to 80% of graduates of low-skill programs. Most graduates chose to stay in their field of training but lowered their expectations and accepted lower-paid jobs. Wilms provides the following two examples among many: only twenty-four percent of computer programming graduates found jobs as programmers or data-processing specialists, fifty-seven percent took clerical jobs such as keypunch-operator or clerk-typist, and nineteen percent took totally unrelated, low-status jobs. Even as long as three years out of school, the graduates who took lower-level but related jobs had not been promoted into the jobs for which they were trained. Conversely, eighty percent of those who studied to become secretaries, got those jobs.[34]

There are undoubtedly several factors at work here. Evidence shows that college graduates are taking the jobs ahead of vocational graduates

and this may indicate over-credentialing. However, employers may also be dissatisfied with the training in vocational schools. For example, in the Boston area, one of the four labor markets studied by Wilms, new hires in computer programming were almost exclusively from universities and colleges or from internal training programs in 1978. In interviews with twenty-one employers, Mazzeo, Sum and Sawhney found that graduates from vocational institutions were not currently meeting their hiring requirements.[35] One of those interviewed stated that hiring from this source had fallen off in the previous 3 to 5 years, because "gradually the caliber of these graduates began to deteriorate until they had no advantage over persons hired from within the firm."

Hiring Practices of Large Firms

A second reason why a certificate may not serve as a strong signal in the labor market is that many large employers hire workers primarily at entry-level positions of low skill. Skilled jobs are filled from internal promotion and on-the-job training, not from external sources of certified graduates. In effect, employers put new employees on a trial period of employment, gain relevant and detailed information on their capabilities and promote only those with the appropriate attitudes and potential for skill development. Training in the necessary skills is then provided directly by the employer.

In these cases, employers are not looking for specific skills, but rather for the potential employability of the individual. In this regard, they are interested in generic skills of reading and writing, positive attitudes toward work and interpersonal skills. While a vocational certificate may be a signal of these factors, the precise field and length of training may not be important. Other screens of recommendations or entrance exams, or customary favoritism to men and whites may also be in use.

Doeringer and Piore have characterized these patterns of entry-level hiring and promotion from within as internal labor markets. In their study, Internal Labor Markets and Manpower Analysis, they provide an estimate by Orme W. Phelps that in 1965 about 54% of workers were in firms with varying degrees of openness to hiring from the outside at high-skill levels.[36] In steel mills, petroleum refineries, paper mills and other process industries, Doeringer and Piore found lines of progression from entry-level, low-skill jobs to high-skill jobs to be almost completely closed to outside applicants. Recent work by Paul Osterman suggests that exclusion from these entry-level jobs is a critical factor in high youth unemployment.[37]

The Non-Responsiveness of Training Programs to Employers' Basic Needs

In recent years, widespread dissatisfaction with young workers, including vocational graduates has surfaced. Employers are not finding the competencies and traits in youth that they believe to be important on the job and they see the school and training system as a primary culprit. Pannell has summarized the findings from employer surveys over the last ten to fifteen years. Their critiques include:

> ...the schools teach obsolete skills, vocational courses do not teach what they claim to teach; training is too specific, and produces workers who are unable to adjust to technological change; basic English and mathematical skills are being neglected by the schools; and graduates often have bad work habits and attitudes.[38]

Within this list, increasingly loud complaints from employers concern the lack of basic skills and poor attitudes toward work. If schools do not deal with such issues, then the certificate is not a meaningful signal of eligibility for the job.

Basic Skills: In a 1977 Conference Board study of firms with over 500 employees, Lusterman found at least half of the sample fault schools

at all levels for poor preparation in reading, communication and writing:

> If any generalization can be made, it is that, at all levels of schooling, too many employees lack the language capabilities that executives think they should have. Entry level blue-collar workers may be functionally illiterate; clerical workers may spell or punctuate poorly, speak or write ungrammatically; supervisors, managers, scientists and other professionals may be unable to organize and present ideas well, orally or in writing.[39]

Reading and writing, as well as arithmetic skills, are important to employers because they appear to be essential to performance on a wide range of jobs. Educational researcher Arthur Smith characterized such skills as "generic," the "behaviors which are fundamental to the performance of many tasks and sub-tasks carried out in a wide range of occupations."[40] Such generic skills can include multiplying whole numbers, giving discipline, diagnosing work problems, and hand/eye coordination. Without these basic skills, employers have found it difficult to train workers for specialized jobs. Dean Kimmerly, Vice President, Department of Human Resources, Michael Reese Medical Center, reports that the Center has been forced to initiate special remedial training, "because 10% to 20% of employees are functionally illiterate and cannot respond to existing in-house training."

Employers are particularly concerned about the "trainability" of workers in those sectors of the economy with ever-changing skill needs and technology. Lee Covert of IBM explains that employees are continuously being retrained over their tenure of twenty to thirty years with the firm. For careers such as these, employers need to find workers who can respond easily to change. Generic skills are an important part of such adaptability. Lusterman quotes an officer of a large manufacturing firm:

> It's impossible to know what our manpower needs will be in five or ten years, and therefore the basic need is for flexible people who have been trained in reading, writing, basic computational skills, and thinking. We can teach them the rest.[41]

Motivation and Good Work Habits: Does the employee show up on time? Is he or she a cooperative worker? Does he dress appropriately? Does she see a job through to its completion? These are some of the elements of motivation and good work habits which are mentioned by employers and monitored by schools who claim to be attuned to employer's desires. In a recent study of how 23 employers in New Hampshire evaluate their employees, for example, the conclusion was that throughout school, students needed better training in work habits, attitudes towards work and interpersonal relations.

These attitudes and habits are sometimes mentioned as a new area of concern, perhaps, as some believe, because motivation in general is deteriorating in the workplace. In a Business Roundtable Conference in November 1978, Thomas A. Murphy, Chairman of the Board of General Motors stated his continuing concern:

> ...rarely is a young General Motors employee fired because he or she can't handle a job...The vast majority of failures in holding jobs are due to bad personal habits, not the demands of the job assignment.[42]

Lewis Foy, Chairman of Bethelehem Steel Corporation agreed that many youth are not "recruitable" because of bad personal habits and attitudes. Such factors are particularly important in the steel industry because of the importance of safety precautions and practices on the job.[43]

Quantity and Confusion of Certificates

The number of different certificates in vocational training is overwhelming for prospective students and employers alike: each of the 8,000 to 9,000 vocational schools has several different programs with diplomas or certificates awarded; in the U.S. Army there are over 350 military occupational specialties (MOS); within the health field, there are 717

job categories, many of them with their own certification tests; each state has its own licensing examination in a wide variety of occupational fields; and there are over 450 apprenticeable occupations through the Department of Labor. Until recently, there has been minimal coordination among these schools, programs or licensing boards to establish common standards or tests. Indeed, one of the supposed strengths in the system has been the flexibility for schools to develop their own particular versions and orientation of training.

The diversity and decentralization in the system creates problems, however for the schools and the recipients of certificates:

--the uncertainty surrounding the standards behind certificates reduces their value and

--the diversity of certificates limits mobility of the individual out of the local area where a certificate may be known or between states with different licensing exams.

Ideally, employers would have precise information on the skills of the applicant, through standardized tests, for example. Absent explicit measures for the individual, the employer may rely on his/her impression of the school or program attended and a grade transcript, if any, from the school. In effect, the employer treats the school as an intervening screen; if the student had the perseverance and the ability to get through a known program, the employer can assume at least a minimum of skill competence.

Most employers, particularly small firms, however, do not have enough experience with graduates of any one school to develop a strong and reliable impression of its programs or graduates. It appears, rather, that very general impressions are formed about the quality of broad classes of schools; colleges, proprietary vocational schools, apprenticeships, the military and CETA. But the uncertainty created by the wide diversity

of programs leads to a general discounting on the part of employers, removes incentives for programs to provide high quality training, and encourages a decline in quality within the system as a whole.

Even if a school is well-known in a local area, its reputation will generally not be widespread across the country. As a result, the mobility of graduates will be somewhat limited. In licensing as well:

> Regional or state control usually results in non-uniform standards, which require the practitioners to undergo reexamination or to otherwise qualify for reciprocity before they can move their practice across a regional or state boundary.[44]

The Directory of Selected Licensable Occupations includes about 800 pages of fine print on the requirements for licenses in different states and represents a valiant effort to summarize the diverse requirements of occupational licensing. However, much of the information may be out of date and new information is not quickly attainable by the individual. This adds a search cost to the expense of getting relicensed and a deterrent to mobility across state lines.

Imprecise and Biased Tests and Certificates

Most certificates fail in several ways to signal appropriate information to the employer:

- --they focus on specialized skills, when employers are increasingly concerned about basic skills and work habits;
- --they indicate the student has met a minimum standard, but do not differentiate among average and superior students or level of training;
- --they are based on tests which bear minimal relationship to performance on the job.

The majority of certificates in the market focus on the specialized skill competence of the graduate. A soldier, for example, may be certified as a Military Occupational Specialty Code 12C1, a bridge specialist, but

it is difficult for a non-military employer to determine what engineering, mathematical or diagnostic skills the soldier has or whether he is a good worker. In some occupations such as counselling and sales, interpersonal skills are critical but not easily measured. Most certificates do not document these less quantifiable competences and employers must guess whether they have been acquired in the training or experience that are behind the certificate.

These perceptions are readily apparent to proprietary school counsellors and administrators. Helen Donager of the New York Institute of Dietetics reports that colleges ask for transcripts of their graduates; employers ask instead about the student's 1) performance, 2) punctuality and attendance, and 3) ability to get along with others. William Fennelly, the President of ITT Tech in Massachusetts, states similarly that when employers call about students, it is primarily to request an attendance record and report on conduct.

Surprisingly, certificates have not been adapted to such concerns. Mary Tenopyr, Manager of Employment Research and Systems for American Telephone and Telegraph, claims that "the education system is letting us down" and explains that AT&T is responding by developing a new set of entrance examinations to test the basic skills of job applicants. One mining company is developing its tests to identify basic skills.

Most certificates show an employer that an individual has met a certain minimum standard. For example, it may indicate an average score of above 70 in ten classes, but if the student is excellent in problem diagnosis and very poor in arithmetic, that will not be shown. It may show that the student can type 60 words a minute, but the typist who can do better than that is not distinguished because the certificate does not

document a range of scores. Some schools have merit certificates to distinguish performance, but in most cases a certificate shows only that a person passed a minimum threshold.

Finally, tests of competency are usually part of any certification process, but they may be invalid indicators of job performance. Tests are usually written and measure what the student knows about a task or how well he/she analyzes a problem in cognitive rather than practical terms. In a 1976 review of testing and occupational certification, Hecht found that little effort was being put into the design of tests for job performance:

> Few studies are directed at the predictive validity (of tests) or the performance which can be expected on the job. Many seem content to relate exams to academic measures based on curriculum content and training which have no proven relationship with the tasks to be performed. Most exams are put into use before validity studies are started or with none in mind until problems identify themselves.[45]

Employer screening tests have also tended to be based on cognitive abilities, rather than hands-on performance.

The inequities of such certificates have been suggested earlier. Employers may use the certificate because it bears some relationship to job performance. But there will be, on the one hand, applicants who are hired who do well on written tests, but not on the job; on the other hand, applicants will be excluded who are competent to perform on the job, but not on written tests. The fact that this bias has cut across racial and sexual lines has created pressure for more relevant tests. Tunkel and Klein, for example, found in a study of vocational education instructors, that blacks do equally well as whites in performance tests but consistently worse on written tests in the same area.[46] Tests to measure verbal and math abilities have also been found to be unrelated to job performance of the hardcore unemployed.[47]

Shimberg has documented other failings in the use of tests for certification. The tests may be based on inadequate assessments of how deep the knowledge should be for a given job. They may include questions that are not relevant to contemporary practice. They may have ambiguous multiple choice questions and ambiguous standards for scoring. The questions may not discriminate well among different levels of knowledge. All of these factors reduce the predictive validity of the certificate for the employer and introduce inequities into the hiring process between those who pass and those who fail unnecessarily.[48]

V. Reform Efforts: Whither Certification and Competency Testing?

Given the problems with existing certificates and tests, it is not surprising that efforts are being made throughout the vocational education and training system to improve. External pressures from employers, minority groups and government, and internal pressures to make certification a meaningful process have led to the following: increased attention to basic skills and work attitudes in training; standardization of certificates; research on the predictive validity of certification instruments; and the development of new tests and of new tools to document skills.

Basic Skills and Work Attitudes in Training

In conversations with employers for this study, three qualities needed in new hires were discussed; basic skills, good work habits and specialized skill. As Lee Covert of IBM said, "What we really want is the best qualified applicant for any position." "Qualified" in his view includes specialized skill training. The payoff is obvious--as long as

the employee does not demand a salary so high that it exceeds the cost of training by the firm, the firm is better off taking the most highly trained applicant available.

However, problems with recent hires have led employers to downplay specialized training and emphasize the importance of basic skills and attitudes. A 1978 study of hiring practices in New York City, for example, found that the primary concern of employers for hiring in entry-level jobs was now reading and writing skills.[49] When we asked employers what they want now from a vocational training system, they indicated a willingness to provide specialized training on their own, as long as schools are providing the basics and inculcating motivation and a work ethic. As Robert Craig, spokesman for the American Society for Training and Development pointed out, industry wants employees to know how to learn and they will take it from there.

> Industry wants new employees to have solid abilities--interpersonal skills, communication skills and broad mathematics for business training, for example. Educators can leave the job-specific training to employers.

One large employer was willing to set priorites for applicant qualifications as well. He says he wants employees with six months of actual experience in the field. Absent that, however, he wants: first, good motivation, reliability and conscientiousness; and second, basic reasoning skills, some math skills and mechanical aptitude, i.e. "trainability." He claims specialized skills are less significant because most of what's out there is not quite right for his firm in any case.

Educators and the general public are also increasingly worried about a decline in test scores, such as SAT scores, and additional strong pressures have been put on the public school system for a return to the "basics." Similarly, the public has been alerted to the particular problems

and poor educational preparation of disadvantaged youth. Such concerns have led to the recent Carter Administration proposal, for example, that two billion dollars of federal funds be funneled into disadvantaged-area school districts to improve schools and keep teenagers in school through subsidized work-study programs.

There is also a recommendation from researchers such as Wellford Wilms that the vocational preparation of youth be redirected to the basics and to work attitudes and away from specialized skills. As he wrote in a paper prepared for a Workshop on Policies Affecting Vocational Education at the Aspen Institute in August, 1979:

> We conclude that public vocational education should shift its focus from narrow skill training, to improving students' abilities to read, write, compute, solve problems, and express themselves by becoming more integrated with academic education particularly at the high school level. We conclude also that to the greatest extent possible, public vocational education should combine work experiences with academic education to aid in career guidance and the development of 'industrial discipline' at both the secondary and post-secondary levels.[50]

It is not yet clear what form the response of public schools will take. On the face of it, the new focus on basics would seem to indicate a return of vocational students from shop to classes in English and math. However, the experiences of proprietary schools suggest that training in basic skills, specialized skills and motivation are closely intertwined. Motivation can be raised and work reliability increased through short instructional units and attention to attendance, dress and other work habits during the course of a specialized skill program. Similarly, proprietary schools have found that students who have been failures in school in the past are not receptive to reading and mathematics instruction. Their interest and commitment are elicited only by developing their

confidence first in specialized, job-related skills, and then by indirectly convincing them of the importance of basic skills for more advanced work.[51]

It may be necessary in public school programs as well, to approach education in basic skills and work habits via specialized skill training and exposure to the work place. In other words, the direct focus of the curriculum might still remain on career skills, but the methods of instruction would be altered to elicit student interest and commitment, and indirectly to increase exposure to basic skills. An experimental program in the 1960's at the Richmond School in California is an example of such efforts to teach abstract concepts to under-achievers through practical application. As Wilms recounts, "Children learned English, physics, drafting and algebra through mechanisms that interest teenagers such as internal combustion engines and photography."[52] Wilms also is convinced that cooperative education programs are successful examples for public schools to follow in the future:

> Our review of cooperative education programs that integrate work experience and study offers persuasive evidence that students' development and career guidance can be improved dramatically through carefully designed experiences that foster an increase in their sense of competence and control over their own lives. Evidence is emerging from evaluations of the Experience Based Career Education model that integrates work experience and academics, showing students in these programs increase their self-direction and confidence and improve their ability to effectively communicate with adults.[53]

Standardization of Certificates

In the face of mass confusion over school and program certificates and licenses, voluntary professional associations have begun to develop national standardized tests for certification in their fields. In what has been termed a "surge of activity" in the last five years, exams have

been developed for pesticide applicators, medical laboratory personnel, data-processing specialists, court reporters, construction-code inspectors and other professions.

The potential for a standardized certificate to reduce the uncertainty in hiring by employers and be of value to individual students is great. Nancy Rubin in a recent New York Times article describes the impact of a new auto mechanics certificate on hiring:

> When Albert Codi needed a new mechanic for his White Plains service station three years ago, he interviewed several young men. All were well-qualified, but Mr. Codi chose Danny Smallen, a 23-year-old mechanic certified by the National Institute for Automotive Service Excellence (N.I.A.S.E.) 'The fact that Danny had passed the examination was a key factor in my selection,' recalled Mr. Codi. 'It's not that the other applicants weren't good, but since Danny was certified, I was more assured of his competence.'[54]

As the quote indicates, the other applicants appear to be well-qualified. But the test has reduced the uncertainty in hiring; Mr. Codi was "more assured" of Danny's competence than of the others.

A second movement has been the design of national standardized licensing exams to replace the diversity of tests developed by each state on its own. The new exams are being developed for voluntary occupational associations by professional testing companies such as the Educational Testing Service and the American College Testing program in such fields as real estate, insurance and social work. Rubin cites the following example of social work licensing tests and the motivation for it:

> The standardized tests, which are being used by only three of the 23 states that now require social-work licenses, is what the associate director of the National Association of Social Workers, Leonard Stern, hopes will result in a uniformity of standards and reciprocity of licenses.
>
> ...Acknowledging that social-work specialties have grown haphazardly, Mr. Stern said that the National Association of Social Workers was engaged in a study to determine appropriate areas of specialization and certification for its 80,000 members.[55]

One charge made by analysts of the licensing process is that these tests are designed and implemented by professionals to restrict entry into the field and keep earnings high. The fastest growing area of increasing specialization in recent years has been in allied health occupations. As Dr. Wimburn Wallace, Vice President of the Psychological Corporation, states, "...much of the effort comes from a sincere attempt to set standards and define the field." However, Paul Pottinger of the National Center for the Study of the Professions has called these recent developments "credential inflation." Says Pottinger:

> As the country becomes more of a human-service provider than a goods producer, the occupations, and particularly the health professions, are trying to extablish a pecking order. Medicare, Medicaid and the likelihood of national health insurance make this exactly the right time for people to draw up their lines of turf.[56]

Finally, the National Commission for Health Certifying Agencies was established in 1978 to monitor the proliferation of associations in the health care field itself. If an agency wants to be an approved certifier of dental assistants, it must show the Commission that it meets certain standards, e.g. it is independent of its advocacy association, it has conducted a job task analysis that outlines the skills required in an occupation, and it is using measures that test for the skills outlined in the job analysis.[57] The Commission's efforts should help to reduce the confusion in the field of health certification and increase the validity of the certificates as measures of job performance. The geographic mobility of graduates who are certified by the Commission's certified agencies may also be enhanced.

Research on Predictive Validity and Development of New Tests

Minority groups and researchers have increased the awareness of employers, government and educational institutions alike that many existing tests discriminate unnecessarily against blacks. As a hedge against legal suits, employers have cut back on what had been fairly routine use of written tests of applicants, the federal government has established equal-opportunity guidelines in response to Title VII of the Civil Rights Act of 1964 (which requires that job-selection procedures, including licensing and certification exams be nondiscriminatory), and local governments have been forced by local groups to redesign tests for firefighters, police and other civil service jobs.

Such pressure on employers and on government to be nondiscriminatory, along with demands from employers for measures of competence in basic skills and attitudes, have led to a number of efforts in the research and test development community to develop unbiased, valid and relevant tests of competence. These efforts have a variety of purposes and backgrounds, but they are unified by a commitment to improve the quality of skill documentation for the workplace.

In the Army's Training Support Center work has been underway for several years to develop a whole new set of skill qualification tests--written and performance. These tests will measure the skills needed in the field much more closely than the prior tests, which were primarily used in personnel decisions. The skill qualification tests (SQT's) are an integral part of the upgrading of Army training. Notices of the requirements for SQT's are given to soldiers six months in advance to "motivate and direct the learning of those to be tested".[58]

In the area of certification testing there are a number of efforts that should improve the validity and overall quality of certification tests as measures of job performance. The National Occupational Competency Testing Institute (NOCTI) has developed written and performance tests to measure the ability of skilled tradesmen who wish to become vocational instructors. These tests are being tested now for use in measuring student abilities.[59] The Clearinghouse for Applied Performance Testing (CAPT) collects, disseminates and evaluates the quality of many performance tests of occupational skills.[60]

In the professions, the Educational Testing Service has been involved in testing validation for social workers, lawyers and nursing specialists.[61] It has also developed the validation for the auto mechanics certification discussed earlier.[62]

In Canada, research is underway to develop measures for "generic skills." These are behaviors which are fundamental to tasks that are carried out in a wide range of occupations.[63] They could include academic skills such as multiplication, reasoning skills such as diagnosing work problems, manipulation skills such as hand/eye coordination, and interpersonal skills such as giving rewards or discipline. These measures could be used to overcome the problem of an overemphasis on specialized skills. These measures have been used in curriculum development in Canadian government training programs. Similar work is only at the early research and development stage in this country.[64]

Within manpower training programs, Dr. Norman Freeberg has developed a battery of measures to assess the outcome of work training programs, particularly the Neighborhood Youth Corps and Opportunities Industrialization

Center's programs. These tools include measures of vocational self-confidence, attitudes toward supervision, and job finding ability. These measures have been evaluated as predictors of labor market success in getting a job and higher earnings.[65] Such measures could be developed further to provide useful measures of employability beyond specialized skills.

New Tools to Document Competence

In addition to the attempts to improve the quality of tests of competence, a number of efforts are underway to improve the quality of the document--the certificate of skill record--that a worker carries through life.

The American Council on Education is working with the Army to develop a comprehensive reporting and record system which tracks the serviceman's skill development and academic credentials throughout his military career. The Council is also examining military occupational specialties (MOS's) to see what college credits can be given for MOS training.[66] These efforts should provide a serviceman with a more detailed record of his accomplishment that will be more desciiptive than his MOS code. They should also improve his mobility into the civilian work of work if he leaves the service.

At the Center for the Study of the Professions, work is underway to develop a document that will explain all the skills of community mental health workers. In the Office of Economic Opportunity programs of the sixties, community workers developed counseling and other service delivery skills through their work experience. Now the Center is developing measures such as written tests and simulations that can document these skills,

particularly the interpersonal skills. The individual's performance on a variety of tests would be included and the underlying test instrument would be explained in a composite record that goes to the employer. A one page skill matrix with explanatory backup information is one form the document may take. A major emphasis here is for the development of national measurement instruments.

In a similar vein, the National Institute on Drug Abuse is developing tools to measure the skills of drug abuse counselors. Here the challenge arises from the need to certify competent service delivers in a field in which interpersonal relations are very important. The approach being used is portfolio development. The individual is to explain what skills he holds and the evidence of, and level of, his competency. The push here is for national guidelines for documentation--for example the guideline would say that skill X should be documented by performance rather than written tests in all states. National tests would not be required. However, the tests and the skill documented must be among the most appropriate indicators of job performance available.[67]

In the last two cases, the work can tackle the problem of certificates that are overfocused on one quantifiable specialized skill by developing a fuller description of skills. By documenting the variety of skills and the skill level acquired, it can avoid being a blunt, all-or-nothing measure of competency. In the case of mobility, the mental health worker certificate will probably be less confining because of its national measurement instruments. Although the drug abuse counselor scheme can carefully document a variety of skills, mobility problems may still exist because different states carry different requirements.

In CETA training programs, the Springfield, Massachusetts skill training program provides each graduate with a detailed summary of specific skills which have been covered in the training. It includes a checklist of specialized skills topics such as taper turning or boring (machining operations) and basic skills topics like mathematics operations--powers, roots and laws of sine and cosine. This reporting makes clear exactly what the individual has been exposed to and completed projects in. Such a report goes much farther than a statement of completion of a course in machine operations.

Together all of these efforts to improve certification and occupational competency documentation should make some inroads into the testing and certification problems outlined earlier. However, these efforts must be utilized by certifying agencies and schools or they will remain ivory tower exercises.

The Politics of Reform

Recent developments in certification and competency testing would appear to have the potential to increase and improve the use of vocational certificates in the labor market and as a byproduct, act as a stimulus to reform in the training system itself. Two political and legal debates, however, will continue to shape in unknown ways the form these efforts will take in the future.

The first issue concerns the question of who designs the certificates or tests. Are they instituted at the national, state or local level? Are they developed by government agencies or voluntary professional associations? On the face of it, there are a number of arguments for the development of certificates to be centralized: visibility, cost and feasibility, and objectivity.

The importance of high visibility and clarity of the certificate has been pointed out many times in this study. If employers know the certificate, its value will be enhanced for the student. Further, in the literature review and in discussions with employers, vocational associations and researchers the few certificates that were distinguished as noteworthy are all set by national organizations with national standards. Examples cited were: the National Institute for Automotive Excellence (NIASE) which certifies auto and truck mechanics; the American Medical Record Association which certifies medical record technicians; and the Federal Aviation Administration (FAA) which certifies aircraft mechanics.

A second concern indicating centralized development of certificates is cost and feasibility. Quality test development is very expensive and time-consuming. ETS has estimated that each component of the NIASE auto mechanics test, for example, cost at least $20,000 to develop.[68] The American College Testing program has over the last five years received seventeen contracts for vocational and professional examinations costing $800,000 or an average of $47,059 per test developed.[69]

Most individual schools or school districts do not have the resources to fund these efforts. But without this level of commitment and expertise, the tests are likely to have serious problems. In a review of local testing practices in Oregon following state legislation requiring competency assessment, J.R. Norton found "lack of uniformity, test instruments which in some cases do not closely match objectives and bad psychometric practices."[70]

Finally, if new certification schemes are to have much impact on training institutions, they need to be developed by separate, objective agencies without a stake in continuing with traditional practices. In

the case of state licensing examinations or professional certificates, they need to be developed by boards with some independence from workers in the field. The well-respected auto mechanics and FAA certificates, for example, were both developed by agencies or associations other than the professional workers involved. In the case of local schools, they may need to be developed by county or state boards in order to assure objectivity.

It is precisely the impact of new certificates on existing institutions that creates political difficulties. To the extent that certification becomes a powerful lever on schools and programs, it can arouse their resistance. The experiences with competency testing in public schools are suggestive of this conflict between local and certralized control. State testing is a device where, by design or otherwise, a measure of control over the curriculum is transferred from local school boards to the state department of education. For example, Madaus and McDonagh have found that teachers in New York have come to disregard objectives from local curriculum guides in favor of those tested in the Regents' Examinations.[71]

Local administrators, of course, resent the intrusion of state standard-setting. The public appears to want it both ways. Polls show preferences both to maintain local control over schools and to develop state standards and testing instruments. According to Madaus and McDonagh:

> Testing companies unwittingly become accessories before and after the fact in this shift of power...Testing companies and tests--rather than the unarticulated issues of state control and inter-district accountability--become the target of vitriolic criticism.[72]

The second issue at stake in the politics of reform concerns the use in any form of written or performance tests in admissions and employment

in the face of increasing debate over their potential bias and misuse to restrict access to jobs and schools. Ralph Nader recently released a well-publicized critique of the SAT exams as invalid measures which unfairly exclude talented youth from attending the colleges of their choice. Tunkel and Klein have shown that written tests of specialized skills discriminate against blacks. Conferences, proposals for national research efforts and editorial columnists continue the debates over uses and abuses of tests.

How testing and certification will weather the storm is uncertain. If these critiques lead to the development of unbiased and valid tests which assess competence for the job, everyone should support them, including minorities. In the meantime, however, employers have cut back on the use of tests or have used instruments with easily-quantified measures. Such defensive reactions will not help the minority or economically disadvantaged applicant who needs objective evidence of competence to overcome the stereotypes of his/her race or class.

SECTION B

APPLYING THE LESSONS OF CERTIFICATION TO CETA

1. Problems in the CETA System

While Comprehensive Employment and Training Act (CETA) training programs have in recent years reached large numbers of disadvantaged individuals, there is, nevertheless, concern that programs have not achieved their full potential. A goal of the program is to help the structurally unemployed overcome their handicap in the labor market by providing two important services: one, the job skills that they have not received and cannot afford at the postsecondary level, and two, the contacts with local employers that they would not otherwise make through friends, relatives, and other firms.

However, empirical evidence suggests that, by and large, CETA programs are not succeeding in this regard. Several recent studies suggest that, while graduates of CETA programs may have an initial wage advantage over control groups of non-graduates, this wage advantage declines substantially within several years time. A study by Cooley, McGuire and Prescott, for example, found that manpower training programs can increase the earnings of participants by $220 to $620 in the first year after training. However, the impact drops off in later years to less than $100.[1] One reason may be that most placements are in low-skill jobs with high turnover, not in jobs utilizing skills or having potential for advancement.

A major problem for CETA is its poor reputation in the eyes of most employers. As Patricia Pannell summarized, in a recent paper for NIE:

> Business, in general, views government-sponsored programs more as an aid to the disadvantaged than as an efficient mechanism for training. As such they tend not to take manpower programs as a serious source of their labor supply.[2]

The problem appears to have two aspects: one, most employers do not actually hire CETA graduates and have no opportunity for the general impression of disadvantaged youth to be overturned, and two, when employers do hire CETA graduates, they often discover serious problems of poor work habits and low basic skills. A U.S. Chamber of Commerce survey of 2,400 personnel directors found that only 26% had used CETA, and only 13% had used it as a continuous hiring source. Of those who had hired CETA graduates, most had placed them in primary clerical and unskilled blue-collar occupations.[3]

A survey of 284 Boston-area employers in 1978 revealed a similar pattern;[4] only 27, or less than 10%, reported hiring CETA graduates. Of seventeen firms contacted about the sources they used to hire keypunch operators, five had used CETA graduates and had generally been satisfied with their performance. The survey stated that: "Of the remaining twelve firms, however, the vast majority either had never had any prior contact with federally-funded training programs (but were unaware of their existence) or surprisingly had never heard of CETA employment and training programs." Four firms were interviewed about recruitment of legal secretaries; only a public defender law firm had utilized CETA sources. The attitudes of the other three were summarized as follows:

> Most firms felt that CETA trainees would not possess the proper work attitudes or the basic writing and grammar skills which they required of legal secretaries. In the majority of cases, however, this opinion was based upon conjecture rather than upon actual experience.[5]

Employers who do hire CETA graduates also have problems with job performance. The Chamber of Commerce study concluded that most employers were "generally satisfied," but that a significant proportion had serious problems with "erratic attendance, poor motivation, low job performance,

unqualified referrals, and excessive red tape."[6] The Boston-area survey also uncovered dissatisfaction with graduates because of their deficiencies in the "basics" of reading, writing and math skills. Only sixteen of the twenty-seven firms that hired CETA graduates claim to have had positive experiences.[7]

The Visible Problems

What factors account for the poor reputation of the CETA program? The following answers have been discussed in the interviews for this study with Department of Labor officials, CETA officials, and employers:

One, clientele of CETA. Many officials and employers feel that the typical CETA enrollee is so disadvantaged in educational and family background, that the necessary basic and specialized skills and the work habits needed for employment cannot be learned in the few months to a year that he/she is in the program.

Two, lack of direction and motivation on the part of the students. In many cases, CETA enrollees are not being provided with clear objectives and plans for training. As a result, they do not know how to and do not have the motivation to focus their attention on specific skill development. For example, if attendance records are not kept, the student may not understand that this is an important work habit which employers require.

Three, mismatches of CETA training programs and employers' needs. Several criticisms are expressed in large-scale surveys such as the Chamber of Commerce study about the low quality of and non-responsiveness to employers' needs of CETA programs. The concerns range from concern with the lack of preparation of CETA graduates in basic skills and their poor work habits to concerns about training in the wrong specialized skills for the local labor market.

Four, lack of placement services. A major handicap for disadvantaged youth is the lack of informal contacts with employers that middle class youths have through friends and relatives. A general perception is that CETA programs have not succeeded in developing either a) contacts with several large employers in a local area for training and direct placement of enrollees in the specific skills needed, or b) general placement offices with many contacts with local employers and a personalized placement effort for each graduate. The absence of such services is a particularly acute problem when the reputation of CETA is so poor and general contact with the program so infrequent.

Underlying Causes

An important question is, why, if employers and others have identified these problems, they developed in the first instance and now persist. CETA is a highly decentralized system of some 460 prime sponsors with several thousands of contracted units for training and work. These prime sponsors range from the most rural to the most urban areas of the country, as well as the most prosperous and the most severely distressed. This decentralized system has the structure to meet the needs of local labor markets, but in many cases the capacity for good service delivery has not been developed. There are very different track records for the quality of training, the extent of placements into unsubsidized employment, and the quality of management. In looking at the variety of explanations for CETA problems, it is important to remember that all of these problems and explanations will not fit all prime sponsors. As in the proprietary school and public school sectors described in Section A, there is a wide range of quality and effectiveness in systems where local initiative is of paramount importance and responsibility is decentralized. Any suggested

solutions to these problems should not penalize those prime sponsors who have already had a solid record of accomplishment.

With this caveat in mind, the following explanations have been discussed during the course of this study for problems in the CETA system:

One, mis-directed incentives on CETA prime sponsors. Because of current funding procedures, prime sponsors are assessed on the basis of enrollments and placements. Prime sponsors may, therefore, retain students for longer periods of time than necessary to keep enrollments high and pay more attention to placing the large numbers of graduates in jobs than in maximizing the quality of jobs found for graduates. This orientation of the prime sponsors, along with the low reputation of CETA in the eyes of employers, would explain the general finding that many CETA graduates are placed in clerical and unskilled jobs with minimal potential for advancement.

Two, weak mechanisms of accountability. Within the CETA system, the pressures for accountability of the prime sponsor are weak. On the one hand, the quality of training and the success of the program are hard to evaluate. Prime sponsors may lack the procedures to monitor how well they are meeting their own objectives. As is evidenced by current discussions, there is confusion over basic objectives, as well as over the techniques and programs that can be developed to achieve them. CETA is a relatively new system without a fully-developed set of standards and expertise, and prime sponsors are not fully aware of all the issues and methods.

On the other hand, none of the other participants in the system, the student, the employer, or the federal government, has both the incentives and the means to enforce accountability on the prime sponsor. The student

has no market power to take his purchasing elsewhere; CETA is the program of last resort for disadvantaged youth. Employers may complain about the quality of training in the program, but have evidenced minimal involvement in the design and oversight of local efforts. Employers may have no real incentive to do so. Statistics show that in some areas, the twenty-five percent of young people who drop out of high school are now competing for nine percent of the available jobs. Even in skilled areas, the sources of manpower may exceed the available number of jobs. Complaints by employers about real shortages in high-technology areas have often not been verified, nor evidence provided that if youth are trained in these skills, they will be hired.

Finally, the federal government has ineffective sanctions on a system such as CETA which is designed to capitalize on the strengths of decentralization and diversity. Existing sanctions for poor performance are too extreme to be meaningful. Between the status quo and takeover of sponsorship there are few effective gradations of control. As CETA has been implemented over the last few years, there has also been a strong federal-local tension as to who is responsible for standard-setting, program development or performance monitoring. Efforts by the federal government to increase accountability on the part of local prime sponsors may be seen in a political context as a threat to their autonomy and a reversion to federal control.

Recognizing these problems, the last round of CETA legislation authorized a demonstration Private Sector Initiatives Program (PSIP). To be eligible for PSIP funds, each prime sponsor must establish a Private Industry Counctil (PIC) to approve the expenditure of PSIP dollars for public-private cooperative ventures. PIC's have a good deal of leeway in the way

they can spend their funds, and their influence may be substantial if they can address training standards directly. The private sector enthusiasm for this venture is undeniable, but monthly PIC meetings are no substitute for the day-to-day internal evaluation and revision of standards and programs. The PSIP effort should complement the development of standard-setting that could be developed through such processes as certification.

II. The Potential for a CETA Certificate and Certification Process

The question for this study has been the following: what role can a certification process play in improving the labor market success of CETA graduates? Section A suggests that certificates and tests, if appropriately designed, can play an important role as an efficient and fair mechanism of sorting workers into jobs where their competencies and training are utilized. As a byproduct, they stimulate investment in skills on the part of youth. To the extent that they replace traditional or customary employer screens of race, sex and age by objective measures of competence, they can facilitate the advancement of such groups in the labor market. Finally, certification can be a mechanism for increasing the quality and responsiveness of training programs.

Certification in CETA can potentially:

--give the employer a track record of what the CETA graduate can do so he/she can quickly see if the individual holds skills that are important to the job;

--distinguish the better student from the crowd of graduates, since the level of achievement is noted;

--make the quality of CETA training and its standards known to large numbers of employers, by setting standards for certification, monitoring the performance of prime sponsors and marketing the certificates;

--provide a clear signal to students of the objectives of the training program and the levels of performance which they must attain to succeed. As a result, both the motivation and the achievement of CETA trainees should rise;

--give information to prime sponsors and the federal government of the performance of individual instructors and of entire programs in training students to acceptable levels of performance. If appropriate sanctions on poor performance are applied, the rigor and standards of training should increase;

--function as a mechanism for prime sponsors, employers and experts in training and testing to discuss and develop responsive and high-quality programs. In the process of developing certificates and tests, the issues of concern to all can be raised and the current base of knowledge on training and testing can be researched. The results of these efforts will inform all participants in the process and provide a signal to administrators and instructors of the kinds and methods of training needed.

Over time, as standards are clarified and accountability enforced, objective measures of competence (test scores, for example) should rise. As programs are redesigned in accord with employer standards and needs and new practices, there would be an accompanying improvement in the widespread perceptions of the program and better placements and higher earnings for all CETA graduates with a certificate. Objective measures of success of these efforts, and an empirical test of their effectiveness, would be:

--placement of superior graduates in skilled jobs with good chances for promotion,

--improvement over time in test results and other measures of performance of trainees,

--improvement in work habits and basic skills of trainees,

--higher expectations and better employer impressions of CETA programs, and

--over a period of time, higher placement rates and earnings for the bulk of CETA graduates.

If certification were to be supplemented by innovations or revisions in programs or standard-setting in CETA, it would be hard to evaluate the impact of each. For example, the Private Sector Initiatives Program may, in different ways, lead to improvement in these same measures of success.

III. Issues of Design and Recommendations

Features of the Design

In designing a certification process specifically for CETA, the following features are important:

--What information is included in a certificate?

Possible measures are:

completion/con-completion of the program
written test results
performance test results
attendance record
work attitude ratings
basic skill ratings
specific skill ratings
recommendations from trainers

--Who develops the certificate?

Should the certificate be developed by each prime sponsor? Should prototypes be provided through a national effort? Should local primes be required to use a national certificate or allowed to substitute their own?

--What else is needed from prime sponsors to accompany the certification process?

Are new placement services a necessary complement to certification? Should the federal government require prime sponsors to reorient their training in prescribed directions, or encourage them to redesign their programs in response to the objective measures of job competence revealed in a certification process?

--How are certificates tied to sanctions?

How can the certificates be used by each prime sponsor to monitor the effectiveness of instructors and programs? How will students who fail to meet the standards be handled? How can the federal government provide incentives for local prime sponsors to increase performance and placement of graduates?

Factors in the Design Decision

The research and interviews in Section A suggest answers to many of these questions. Several factors go into the decision on each: Will the certificate be highly-visible and clearly-known to employers? Is the certificate responsive to the information and skill needs and hiring practices of employers? Does the certificate distinguish the best students from the average? Does it give the graduate geographic mobility? Is the certificate nondiscriminatory? Is the certification process technically and politically feasible? Each of these issues is discussed briefly below, with implications for a new CETA program.

Visibility and Clarity of the Certificate

In Section A, we discussed the problems which arise from the multiplicity and diversity of certificates in postsecondary training. An employer cannot come to know and trust each and every one of the thousands of individual schools and certificates across the country. In addition, the certificates themselves seldom contain clear information about the standards or tests involved in the training. In the resulting confusion about what has been learned, employers often group vocational students into broad categories and fail to make the fine distinctions of type and quality of training which would be warranted. With 460 prime sponsors (and many training programs under each) and widespread lack of documentation of the trainees' records or the content of programs, a similar set of problems are present in hiring of CETA graduates.

In this confusion, the need for simplicity and clarity in selection of tests and design of the certificate is paramount. The number of measures or indicators of competence should be kept to a minimum, and those used should be the most concrete and least open to subjective interpretation. For example, four or five competency measures can be better explained and marketed to employers than twenty. An attendance record would also be more understandable to employers than a work attitude rating based on subjective ratings of instructors.

A standardized national certificate for all graduates in each specific occupational field would be a highly-visible signal of job competence to employers. A CETA electronic technican in Massachusetts would carry the same credentials as one in Texas, and employers across the country would know this. A second approach, which may be pursued in tandem, is for local prime sponsors to develop specialized skill certificates for those employers who are willing to hire graduates and to spend the time in clarifying their particular needs and suggesting areas and methods of training. The disadvantage of this option, however, and the reason why it should not be used exclusively, is that other employers will be unable to assess the quality or relevance of a specially-designed program and certificate and will discount its value in their hiring decisions.

Responsiveness to Employers' Skill Requirements

Research on vocational training graduates and interviews for this study suggest that employers look for three competencies in job applicants: good work habits; basic skills; and specialized skills. When the certificate indicates training only in specialized skills, employers commonly call placement offices and instructors in search of information on attendance records and work habits. They also are beginning to develop their

own standardized tests of reading and mathematics competence to be administered to job applicants.

The need for basic skills and good working habits is particularly acute for CETA enrollees. In 1968, Doeringer wrote:

> Unreliability on the job tends to be a more serious cause of ghetto unemployment than level of education and training and an important cause of unattractiveness to employers.[8]

In the 1979 survey of Boston-area firms, one employer felt that CETA training as now constituted was "a disservice to the individual to shuffle him/her into programs without first providing basic reading and writing skills."[9]

Finally, the Chamber of Commerce survey asked employers what would be useful programs for disadvantaged youth. Their responses, in rank order, were:[10]

General orientation/counselling on work discipline, attendance	72%
Basic literacy, arithmetic skills	68%
Skills training in the classroom	60%

A variety of programs must be developed and tested to deal with these problems and each prime sponsor may approach them in a different way. In particular, specialized skill training will continue to be important when direct links are made with an employer and a program is designed to meet his/her specific needs. However, the CETA system should also be responsive to the development and certification of generic competencies and work habits, the skills which are broadly transferable from one firm to another. Here, placement efforts should be directed at those large firms with low-skill entry-level jobs and potential for internal promotion and at small firms which often provide the "bridge" for youth into larger firms.

Distinguishing Levels of Performance

Most of the certificates examined in this study indicated completion of a program or passage of a test and nothing more. Because the documents carried no gradations of accomplishment--like grades or the actual standardized test scores--the student is at the mercy of the employer's general impression of the school. The below average graduate of a high quality school benefits from this blanket treatment, but the above average student of a school with a poor reputation--as in the case of CETA--loses. No matter how well he or she can perform individually, the program's stigma stands in the way of good employment.

However, some of the new efforts at detailed documentation of competency mentioned in Section A can distinguish the superior student from the mean and should be examined as models for CETA certification. They can explain several dimensions of an individual's performance. For example, if a student's manual dexterity is superior to his cognitive ability, this distinction can be made by including both written and performance test scores. Samples of records now being developed can be obtained from the Center for the Study of Professions, the National Institute of Drug Abuse, the Child Development Associate Consortium, Inc., the Medix School in Baltimore and the Springfield, Massachusetts prime sponsor.

Geographic Mobility

National certificates were cited frequently in our survey as particularly useful to employers. Their visibility gives them a stature seldom found in a locally developed, locally used certificate. The trust and familiarity engendered enhances the geographic mobility of those who the hold the certificates. Clearly, CETA certification can go either way--for

national certificates or for local prime sponsor certificates. While the local certificate may be developed and made known to a few employers in the local labor market, there is no question that national certification can contribute to greater mobility of the labor force.

Non-Discrimination

If a certificate, or any test underlying it, shows one group to have superior performance for reasons other than actual job competence, the certificate is discriminatory. Section A showed cases of such discrimination against minorities, particularly in written tests. Several steps can minimize future bias. First, tests and certification documents should be tested and retested for their ability to fairly and accurately predict job performance. This argues for national test and certification development because such research is most efficiently done in one or a few places. Second, the certificate should include several measures so that discriminatory measures as yet undetected may be offset by a number of other tests.

Political and Technical Feasibility

There are several areas of political and technical sensitivity in developing a certification process: one, the resistance of local prime sponsors to more and more costly federal mandates and requirements; two, resistance to national, government-funded tests in any segment of the decentralized educational system; three, the skepticism of minority communities about the development of tests used in hiring; and four, the enormous costs of developing and perfecting tests and certificates.

Local prime sponsors are currently over-burdened with the tasks assigned to them in CETA legislation and would resist and resent further program requirements or test development requirements from the federal government.

The system as a whole would benefit from the development of skill records and tests and from more attention to basic skills and work habits. However, requirements on local prime sponsors to develop their own tests would place demands for expertise and resources that could not be met without considerable strain. The costs of developing one occupational skill test start at $20,000. In that context, nationally-developed tests would be seen as facilitating and assisting prime sponsors in adopting standards, rather than burdening them with tasks they cannot easily perform themselves.

Secondly, there is a widespread desire for CETA programs to do a better job at teaching disadvantaged youth both basic skills and good work habits. The development of tests and measures of these skills and attitudes, and the requirement that they be given to enrollees is a less intrusive and possibly more effective means to encourage change than the establishment of new program requirements. The Department of Labor could mandate primes to develop a sequence of programs of prescribed length, content and instructional method from basic skills and attendance records to specialized programs. These requirements would be contrary to the widespread support in the field for decentralization of program development. If programs were implemented based on such a national model, they might not work and local initiative and creativity would be thwarted.

Test results, however, would provide an obvious measure of the performance of the prime sponsor in training students. As such, they would be "product" standards rather than "program" standards for CETA. If continued funding were based on improvement in scores, primes would have the incentive to change their programs in the desired directions, but the flexibility to do so in their own fashion. The political and programmatic advantages of decentralization would be preserved, but the incentives for performance would

be increased.

The development of new certification tests or implementation of existing tests in the CETA system would obviously be the subject of some concern and discussion to minority groups who are pushing hard for unbiased testing procedures. However, the argument can be made that good competency tests which clearly measure job-relevant characteristics will help disadvantaged youth get jobs to the extent that they replace the blanket poor impressions employers now have of minority youth.

The fears of these groups that the competency tests will simply replace one discriminatory screen with another will be allayed if they are involved in the process of certification and test development at the national level. If local primes were left the job of finding and developing their own battery of tests and skill records, the potential is great that they would use the biased tests of the past or unwittingly develop tests or records with all the problems which are now being recognized by researchers. The political sensitivity of these issues at the local level would be enormous.

For these reasons, the federal government should take the lead in developing the unbiased predictors of job competence and skills. Substantial research projects could be supported to build upon recent efforts in these areas and minority concerns could be easily and effectively incorporated in such programs and studies. Specialized skill tests can be gathered from the Educational Testing Service, the Center for Applied Performance Testing, and the National Occupational Competency Testing Institute for starters. There are also collections of tests entitled Tests in Print and Mental Measurement Yearbook. Tests of work habits will be more difficult to find, but work is being done as described in Section A.

Recommendations

If skill certification is to be a part of a scheme to tighten standards in the CETA system, we recommend that it include the following:

1. Develop graduate skill records. These can be one-page documents that summarize a variety of student accomplishments in the training and the methods of instruction offered in the program.

   a. Include measures of competency in basic skills, work habits and specialized skills.

   b. Keep the record simple. Avoid cluttering it with many esoteric measures or extensive descriptions of programs.

   c. Avoid the more subjective measures which leave much discretion to the tester/evaluator.

   d. Require local prime sponsors to use national model skill records unless they have acceptable substitutes.

2. Explore the use of national competency tests.

   a. Develop an inventory of specialized skill tests that can be used by prime sponsors as measures for the skill record. This inventory can begin with a collection of the numerous tests already in use for specialized skills.

   b. Develop tests or measures of work habits and basic or generic skills that can then be used in the skill record as well.

   c. Develop a range of scores in the tests to allow levels of performance to be distinguished.

   d. Set minimum national standards for passage of the tests and allow the prime sponsor to set higher standards for its students.

3. Do extensive marketing of the CETA standards and CETA graduates.

   a. Establish a full-time placement office with each prime sponsor to market both the certificates and the graduates to employers.

   b. Externally market the standards and tests underlying the CETA certificate to employers on a nationwide basis.

   c. Require the placement office or instructors to discuss the standards and certificates with trainees so as to clarify goals and performance requirements for them.

FOOTNOTES

Section A

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APPENDIX A

METHODOLOGY

The Department of Labor requested research on the effectiveness of proprietary schools in preparing youth for work. The purpose of the study would be to assist the Department in consideration of a proposal for an entitlement for certification of competencies for youth. The following questions were asked at the outset:

--What proprietary school certificates have value in the labor market?

--What competencies appear to be associated with each of these, e.g., discipline and work habits, basic skills, specialized skills?

--What do employers say about the value and contributions of a proprietary school education?

--What is the quality of the competency tests of proprietary schools? What are the problems associated with such tests? Are they culture-biased? Do tests exist for discipline and work habits? Would new tests have to be developed for the DoL program?

As the research evolved, the scope of the study was broadened to examine different types of occupational certification.

These questions were explored with a variety of experts. Discussions were held with other researchers and developers in vocational education, certification and testing. The questions were also discussed with vocational school association presidents, school directors and employers. The employers were large firms, often with their own training or human resource development division. A complete list of interviewees is included in Appendix B.

The broader questions outlined above were asked of each group and these were accompanied by specific questions appropriate for the particular group.

Where appropriate, certifying agencies and schools were asked what standards are used for passage and how these standards are developed. They were also asked to provide copies of the tests and certification requirements. Researchers and employers were asked what the strengths and weaknesses are in current certification schemes and what a model certification program would look like.

A thorough literature search was conducted as well. The recent literature on the labor market experiences of postsecondary vocational school graduates was reviewed. Literature on occupational testing, employer attitudes, employment potential, employment qualifications and licensing, and certification practices were all explored.

In many instances, the results of the search or the response of interviewees were disappointing. An employer may not have thought concretely about the role a certificate plays in hiring. The certifier may not have any means to test the value of his certification for a newly-trained worker in the occupation. It was easier to gather information about failings in certification than to get a direct sense of what a strong certificate should look like. Within these constraints, we analyzed the information we collected and extrapolated answers to our initial questions, always realizing that this data may not take us as far as we would like to go.

APPENDIX B

INTERVIEWEES

Andrew Bayes, Defense Activities for Non-Traditional Education Support (DANTES)

Virginia Boehm, Manager of Psychology Services, Standard Oil of Ohio

Clay Brittain, U.S. Army Training Support Center, Fort Eustis, VA

Lee Covert, Manager of Employment Administration, IBM Corporation

Robert Craig, American Society for Training and Development

David Cruse, Hampden District Regional Skills Center, Hampden, MA

Helen Donager, Director, New York Institute of Dietetics

Georgianna Eacman, Director of Placement, Bay State Junior College

Dennis Falk, Executive Director, National Commission for Health Certifying Agencies

William Fennelly, Director, ITT Technical Institute

William Fowler, President, National Home Study Council

William Goddard, President, National Association of Trade and Technical Schools

Joan Jones, National Center for Research in Vocational and Technical Education

Morris Keaton, Council for the Advancement of Experimental Learning

Dean Kimmerly, Vice President for Human Resources, Michael Reese Medical Center

Raymond S. Klein, National Occupational Competency Testing Institute

George Klemp, McBer and Company, Boston

Daniel Knapp, National Institute for Automotive Service Excellence

Karen Lane, Director of Education, The Medix Schools

Connie Larson, Director, Division of Health Manpower, State of Minnesota

Rocco Lasano, President, Bay State Junior College

Craig Musick, Director of Training, Graniteville Co., Graniteville, South Carolina

Paul Pottinger, Center for the Study of the Professions

Alexander Retell, Placement Specialist, Katherine Gibbs School, Boston

Rodney Rhoads, Manager of Employee Selection and Management Development, Old Ben Coal Company, Benton, Illinois

Benjamin Shimberg, Associate Director, Center for Occupational and Professional Assessment, Educational Testing Service

Steve Slater, Clearinghouse for Applied Performance Testing

Hank Spille, Office on Educational Credit, American Council on Education

Janet Spirer, National Center for Research in Vocational and Technical Education, Ohio State University

Mary Sullivan, Director, Katherine Gibbs School, Boston

Greg Sytch, General Technical Institute and Board of Directors of American Welding Society

Mary Tenopyr, Manager of Employment Research and Systems, American Telephone and Telegraph

Jack Tolbert, President, The Bryman School; Past President, National Association of Trade and Technical Schools

Laurence Vickery, Director, Employment Relations, General Motors Corporation

Al Wiant, National Center for Research in Vocational and Technical Education

Wellford Wilms, University of California, Los Angeles

C. R. "Pete" Williams, Education and Employee Development, IBM Corporation

Mary Wine, Director of Professional Relations, Association of Independent Schools and Colleges

George Ziener, Education Administrator, Division of Resource Development, National Institute on Drug Abuse

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